

ABSTRACT

One preferred embodiment of the present invention, provides an auxiliary hydraulic drive system having a total hydraulic flow. The system includes a primary hydraulic pump operable to provide hydraulic flow for an implement, and a flow control valve in communication with the hydraulic flow. The flow control valve operates to allow an optimum flow rate and diverts the excess flow amount when the total hydraulic flow exceeds the optimum flow rate. A secondary hydraulic pump is selectively operable to provide additional hydraulic flow. A control system is operable to engage the secondary pump when the total hydraulic flow drops below a minimum flow level; and the control system operates to disengage the secondary pump when the total hydraulic flow exceeds a maximum flow level. In a further embodiment, the invention provides a control unit for a hydraulic system. The control unit includes a sensor to measure total hydraulic fluid flow in a system; and a controller coupled to the sensor. The controller is operable to initiate additional fluid flow in the system if the total fluid flow drops below a minimum; and, is operable to reduce the fluid flow in the system if the total fluid flow exceeds a maximum.